

Stat Plot Operations: histogram

Construct a histogram using data in the lists.


For this example, we have data entered into $L_1 = \{3.8, 5.6, 5.9, 6.4, 7.4\}$ and $L_2 = \{4, 6, 7, 7, 8\}$. See handout for Stat Edit Operations: entering data.


Keystrokes

Screen

Access the STAT PLOT Menu:

You can have up to three plots defined at once. To select Plot 1, place your cursor on **1:** and press 



```

STAT PLOT
1: Plot1...Off
  L1 L2
2: Plot2...Off
  L1 L2
3: Plot3...Off
  L1 L2
4↓ PlotsOff
    
```


This screen shows the definition of your statistical plot. We will first define a histogram that uses the data points from L_1 .

Note: depending on prior use, your screen may appear differently than this one appears here.



```

Plot1 Plot2 Plot3
On Off Off
Type: [Histogram]
  [Normal] [Box] [Scatter]
Xlist: L1
Ylist: L2
Mark: [Square] + .
    
```

First we need to turn the plot on. Using the left and right cursors, place your cursor on **On** and press 

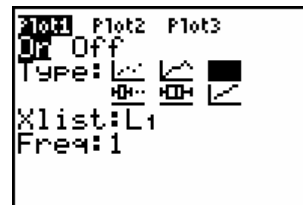


```

Plot1 Plot2 Plot3
On Off Off
Type: [Histogram]
  [Normal] [Box] [Scatter]
Xlist: L1
Ylist: L2
Mark: [Square] + .
    
```

The six types of plots available are scatter plot, xyLine, histogram, modified box plot, regular box plot, and normal probability plot (see other handouts for Stat Plot).

Select the 3rd type (histogram)   



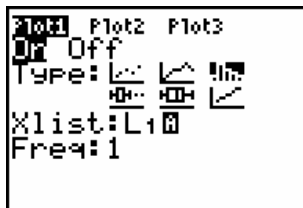
```

Plot1 Plot2 Plot3
On Off Off
Type: [Histogram]
  [Normal] [Box] [Scatter]
Xlist: L1
Freq: 1
    
```

Select **L1** for the **Xlist**:

*Note the blinking "A" for your cursor. This tells us that by default, **ALPHA** is pressed; you can enter in list names directly.*




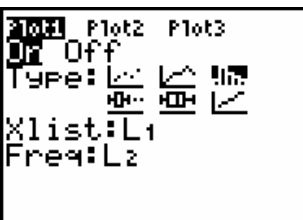
```

Plot1 Plot2 Plot3
On Off Off
Type: [Histogram]
  [Normal] [Box] [Scatter]
Xlist: L1[A]
Freq: 1
    
```

Select **L2** for the **Frequency**

*Note: we are using L_2 as a list of frequencies for the data in L_1 . If you do not have a separate frequency list, use **1** for the **Freq**, the frequency of each data element. Make sure you press **ALPHA** to turn off the default setting before pressing .*



```

Plot1 Plot2 Plot3
On Off Off
Type: [Histogram]
  [Normal] [Box] [Scatter]
Xlist: L1
Freq: L2
    
```

More questions? Contact the **Metropolitan State University Math Center** at 651-793-1460, 651-793-1463 (Fax) or math.center@metrostate.edu.

To view the scatterplot, you must have the viewing window set up for your data. You can define the Window dimensions yourself or you can use ZoomStat (see handout for Zoom Operations).

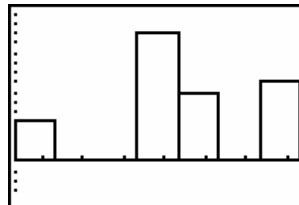
[ZOOM] **9**

The ZoomStat feature chooses WINDOW dimensions that fit the most previous Xscl definition. To control what the histogram looks like, you enter dimensions in directly (see below).

```

0000 MEMORY
3:Zoom Out
4:ZDecimal
5:ZSquare
6:ZStandard
7:ZTri9
8:ZInteger
9:ZoomStat

```



Note: once you are done with a particular statistical plot, you should turn it off in order to avoid error messages when you graph other functions, change list entries, or look at other statistical plots.

Suppose that you want class intervals of $3 \leq x < 5$, $5 \leq x < 7$, and so on up to $7 \leq x < 9$. Thus your x 's range from $Xmin = 3$ to $Xmax = 7$ (not including 7), your intervals have width $Xscl = 2$ and your count of data in each class interval range from $Ymin = 0$ to $Ymax = 20$. Set your window dimensions as follows (see WINDOW handout for more details on how to change window dimensions)

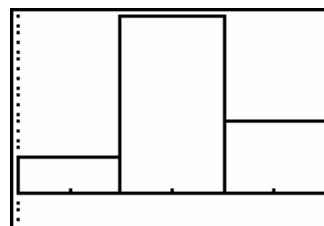
```

WINDOW
Xmin=3
Xmax=9
Xscl=2
Ymin=-3
Ymax=20
Yscl=1
Xres=1

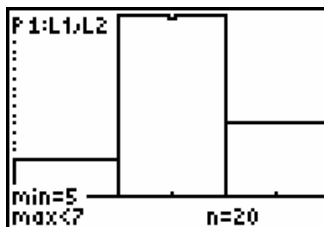
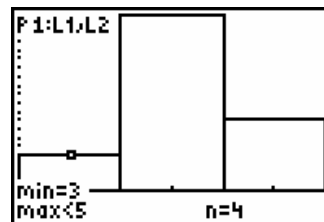
```

Now look at the histogram

GRAPH



If you press **TRACE** and the right and left arrows, you can trace the bars of the histogram.



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